

## Recommendations for ASD from November 2001 Review

### 2.1 Accelerator Physics

1. Resolve, by January 2002, how to control the halo of the beam distribution as it emerges from the RFQ, for example by deciding to put collimators in DTL tank 1. **Completed with SNS AP Tech Note 17 "linac Halo Mitigation" Jeon et al.**
2. Prepare, for Front End re-commissioning at ORNL in fall 2002, a diagnostic system in the Medium Energy Beam Transport to demonstrate beam gap cleanliness, as well as to measure transverse halo. **Will not be acted on by ASD in the near future, since not needed for CD-4. Some thought of eventually using a permanently-installed non-intercepting laser wire for high power operation. Holtkamp is responsible person.**

### 2.2 Front End Systems (WBS 1.3)

1. Clarify to all participants the availability of and budgeting for partner lab performance in FES installation/commissioning. **Completed with ETC and signed MOU with LBL. Will LBL have a list of people and hours they will spend at ORNL for assembly and commissioning under their budget?**

**Note:** FES installation and commissioning personnel appear to assume the presence of partner lab personnel or efforts that are not budgeted for. For example, the FES installation presentation included 1153 hours of partner laboratory technician effort that is not budgeted for by LBNL. All parties (i.e., partner labs, ORNL installation groups and ORNL commissioning groups) need to reach a uniform consensus concerning partner lab support during installation and commissioning.

### 2.3 Linac System (WBS 1.4)

1. Solicit a proposal for a second source design and prototype of the DTL klystron and place such an order prior to May 2002. This action should be followed regardless of the prototype test results from the first vendor. **Almost done and should be completed in March. Fuja is responsible person.**
2. Develop a plan that would permit the insertion of collimators in DTL tank #1. This plan should include a recommendation for either the immediate redesign of DTL tank #1 for this purpose, or assure that a remedial insertion at a later date would be possible if necessary. A decision should be made by January 15, 2002. **Completed with SNS AP Tech Note 17 "linac Halo Mitigation" Jeon et al.**

3. Maintain a close watch and good working relationship with all vendors.  
**Completed. This has been and is being done quite well.**
4. Build upon the excellent work that has been done to define Linac acceptance criteria, as well as installation and commissioning activities. Review and update these plans, activities, and criteria every six months. **Completed and is being updated as needed.**
5. Continue reliability studies. Update an overall assessment of integrated reliability performance, based on latest designs and test results, every three months. This is being done. **Dodson is responsible person and will give another talk on RAMI. Two new ideas: (1) Make yet another spread sheet with all the power supplies, their rated power, the % they will run at for 1 GeV operation, and then the RAMI credit we can take for their over design, which would involve, Cutler, Anderson etc. (2) Have group leaders give Dodson the few most troublesome hardware they are responsible for and what their personal RAMI estimate is for this hardware.**

#### **2.3.2 Superconducting Linac (WBS 1.4)**

1. SNS ASD management and JLAB management: meet monthly to review and document the status of cavity and cryomodule development activities.  
**Completed and done on a weekly basis.**

#### **2.4 Ring Systems (WBS 1.5)**

1. Present a plan, at the next review, of how to proceed with commissioning if the surface field goal of 37MV/m in the cryocavities cannot be met. This plan should include a “drop dead” date for installation of additional RF, or for lower energy commissioning, leading to full energy operation. **Holtkamp is responsible person.**
2. Present a plan, at the next review, for spares of all devices that will be in high radiation areas. We encourage the project to obtain spares for these devices before beam is introduced in order that these devices can be swapped out in situ in a “dry run” scenario. This would provide the one chance to work out unforeseen problems before devices become activated, and should be made part of the installation schedule. **??????**

#### **4.0 Pre-Ops/Operations Planning**

1. Complete the hand-off agreement with LANL by the end of this year.  
**Completed**

2. Develop a fully resource-loaded schedule for assembly, acceptance and testing of subsystems and components at the RATS building before the next review. **Completed by Damm et al.**
3. Integrate the turnover plan, the “RATS” schedule, the installation plan, and the commissioning plan into the Integrated Project Schedule (IPS) before the next review. **Will be completed by DOE Review. Olsen is responsible person.**
5. Plan for system integration tests (“dry runs”) to take place before the beam commissioning phases that include all parts of the operating accelerator system—from the hardware components to the controls to the application software to the operations team. **Olsen will talk to area managers and see if this can be incorporated in their detailed schedules.**

## **7.0 Schedule and Funding**

1. Finalize the ASD subproject schedule, including detailed installation and RATS sections, and integrate it with the overall Project detailed schedule by the next DOE review. **Will be completed by DOE Review. Olsen and Mann responsible.**

## **8.0 Management**

1. Identify the critical spare parts across the project and include in the updated cost baseline that incorporates the ETC. **ASD piece is being done. Dodson is responsible person.**